



## Drought and water policy in Australia: Challenges for the future illustrated by the issues associated with water trading and climate change adaptation in the Murray-Darling Basin

---

**Author(s):** Kiem AS  
**Year:** 2013  
**Journal:** Global Environmental Change : Human and Policy Dimensions. 23 (6): 1615-1626

---

### Abstract:

This paper reviews historical and existing drought and water policy in Australia in order to gain a sense of the strengths and weaknesses in enabling effective adaptation to climate change. In particular, (a) the social, economic, and environmental costs and benefits of water trading and (b) the limitations of using 'market-based' instruments (MBIs), like water trading, for adapting to drought and water security related climate change impacts are investigated. It was found that water trading has potential as a climate change adaptation strategy with many benefits experienced in previous and current versions of water trading. However, there are also limitations and those negatively impacted by water trading are hit hard. These social impacts of water trading have not been thoroughly investigated and are not well understood. Significant uncertainty also exists around the impacts of water trading on the environment (e.g. changed hydrological regimes, underestimation of sustainable environmental flows etc.). Proper quantification of these impacts is needed, however, it is a complex task given Australia's large hydroclimatic variability and the current lack of understanding as to how to optimise water needs of the environment, humans, agriculture and other industries. It appears that 'cap and trade' quantity-based MBIs such as water trading will eventually do what they are designed to do (i.e. reallocate a resource to 'high value' users). However, given that the 'low value' users in this case are agriculture and town/urban water supply (not including drinking water) and the 'high value' users are mining, manufacturing, and electricity production (i.e. high greenhouse gas emissions), do we really want the water trading MBI to achieve its objective? and, what would the social and environmental ramifications of such a shift in water use within Australia be? These questions, along with the limitations and potential implications of using water trading (and MBIs in general) as a climate change adaptation tool, must be carefully considered if past Australian drought and water policy failures are not to be repeated.

**Source:** <http://dx.doi.org/10.1016/j.gloenvcha.2013.09.006>

### Resource Description

#### Exposure : ☐

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Food/Water Security

**Extreme Weather Event:** Drought

# Climate Change and Human Health Literature Portal

## **Geographic Feature:**

resource focuses on specific type of geography

Freshwater, Rural

## **Geographic Location:**

resource focuses on specific location

Non-United States

**Non-United States:** Australasia

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Health Outcome Unspecified

## **Intervention:**

strategy to prepare for or reduce the impact of climate change on health

A focus of content

## **Mitigation/Adaptation:**

mitigation or adaptation strategy is a focus of resource

Adaptation

## **Resource Type:**

format or standard characteristic of resource

Policy/Opinion, Review

## **Resilience:**

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

## **Timescale:**

time period studied

Time Scale Unspecified

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content